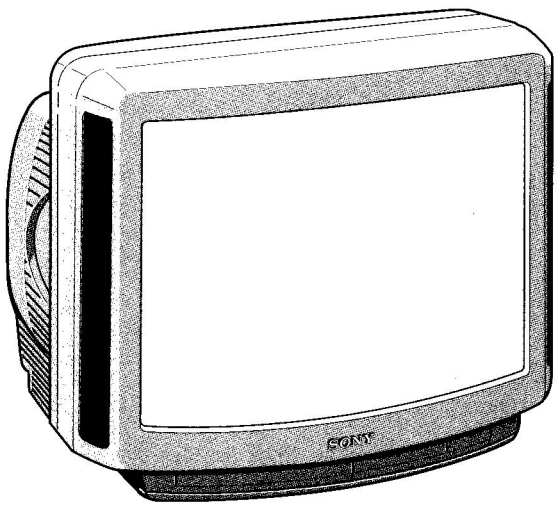
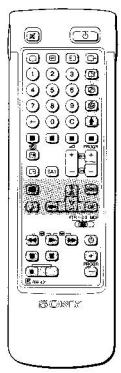
MANUAL

AE-3 CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-29X2A	RM-831	Italian	SCC-J26F-A	KV-29X2D	RM-831	AEP	SCC-J23F-A
KV-29X2B	RM-831	French	SCC-J27F-A	KV-29X2E	RM-831	Spanish	SCC-J28F-A





MICROFILM

TRINITRON® COLOR TV

SONY®

ITEM MODEL	Television System	Channel Coverage	Colour System
Italian	B/G/H	B/G/H VHF: E2-E12 UHF: E21-E69 Cable TV (1): S1-S41 Cable TV (2): S01-S05, M1-M10, U1-U10 ITALY VHF: A-H UHF: H1, H2	SECAM, PAL, PAL + NTSC 3.58 (video input only) NTSC4.43 (video input only)
French	B/G/H, D/K, I, L	B/G/H VHF: E2-E12 UHF: E21-E69 Cable TV (1): S1-S41 Cable TV (2): S01-S05, M1-M10, U1-U10 ITALY VHF: A-H UHF: H1, H2 D/K VHF: R01-R12 UHF: R21-R69 I B21-69 L VHF: F2-F10 UHF: F21-F69 Cable TV: B-Q	SECAM, PAL NTSC 3.58 (video input only) NTSC4.43 (video input only)
AEP	B/G/H, D/K	B/G/H VHF: E2-E12 UHF: E21-E69 Cable TV (1): S1-S41 Cable TV (2): S01-S05, M1-M10, U1-U10 ITALY VHF: A-H UHF: H1, H2 D/K VHF: R01-R12 UHF: R21-R69 CABLE TV VHF: B-Q UHF: S21-S41	SECAM, PAL, PAL + NTSC 3.58 (video input only) NTSC4.43 (video input only)
Spanish	B/G/H, D/K	B/G/H VHF: E2-E12 UHF: E21-E69 Cable TV (1): S1-S41 Cable TV (2): S01-S05, M1-M10, U1-U10 ITALY VHF: A-H UHF: H1, H2 SECAM D/K VHF: R01-R12 UHF: R21-R60	SECAM, PAL, PAL + NTSC 3.58 (video input only) NTSC4.43 (video input only)

MODEL	29X2A	29X2B	29X2D	29X2E
Power Consumption	133W	142W	140W	142W

SPECIFICATIONS

Picture Tube — Super Trinitron
Approx. 72 cm (29 inches)
(Approx. 68 cm picture measured diagonally)
110° -deflection

Rear/Front Terminals

[REAR]

1 21-pin Euro connector (CENELEC standard)
- Inputs for audio / video signals
- Inputs for RGB
- Outputs of TV audio and video signals

2/S 2, 21-pin Euro connector
- Inputs for audio and video signals
- Inputs for S video
- Outputs for TV audio and video signals (selectable)

Audio outputs (variable) - phono jacks

[FRONT]

3 , Video input - phono jack
3 , Audio inputs - phono jacks
3 , S video input - 4 pin DIN
Headphonejack - stereo minijack

Sound output — 2x30W (music power)
Dimensions — 676x557x528 mm approx.
Weight — Approx. 48.0 kg
Supplied accessories
Remote Commander RM831 (1)
Battery R6 (1)
Other features — Digital comb filter (High resolution)
FASTEXT
100Hz Digital Plus

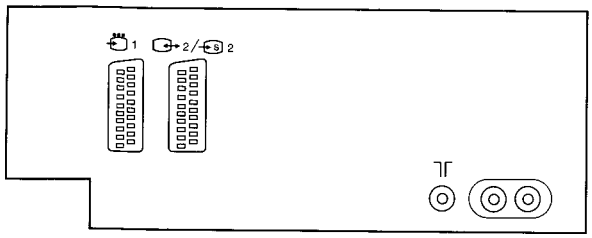
[RM-831]

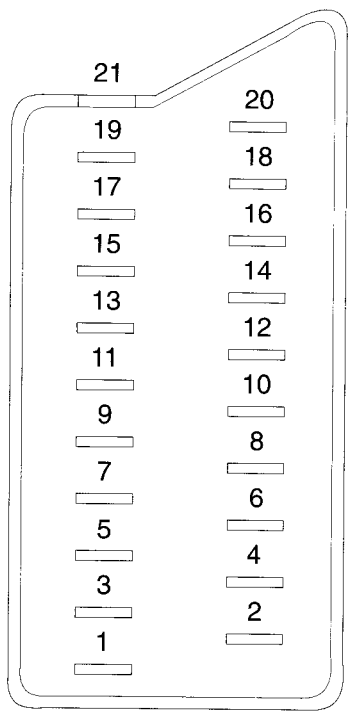
Remote control system	Infrared control
Power requirements	1.5V dc 1 battery IEC designation R6 (size AA)
Dimensions	Approx. 65x225x21 mm (w/h/d)
Weight	Approx. 157g (Not including battery)

Design and specifications are subject to change without notice.

Item \ Model name	KV-29X2A	KV-29X2B	KV-29X2D	KV-29X2E
PIP	OFF	OFF	OFF	OFF
MPIP	OFF	OFF	OFF	OFF
Rotation Coil	ON	ON	ON	ON
VM Set	ON	ON	ON	ON
Scart 1	ON	ON	ON	ON
Scart 2	ON	ON	ON	ON
Scart 3	OFF	OFF	OFF	OFF
Front AV	ON	ON	ON	ON
AKB in 16:9 mode	OFF	OFF	OFF	OFF
TXT	ON	ON	ON	ON
FLOF	ON	ON	ON	ON
TOP	ON	ON	ON	ON
Norm B/G/H	ON	ON	ON	ON
Norm I	OFF	ON	OFF	OFF
Norm D/K	OFF	ON	ON	ON
Norm L	OFF	ON	OFF	OFF
Language Preset	Italian	French	German	Spanish

21 pin connector (1, 2 / S 2)

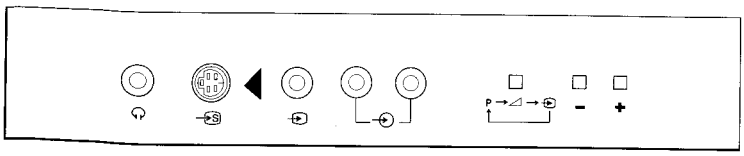




Pin No.	1	2	4	Signal	Signal Level
1	○	○	○	Audio output B (Right)	Standard level : 0.5V rms Output impedance : Less than 1k ohms*
2	○	○	○	Audio input B (Right)	Standard level : 0.5V rms Output impedance : More than 10k ohms*
3	○	○	○	Audio output A (Left)	Standard level : 0.5V rms Output impedance : Less than 1k ohm*
4	○	○	○	Ground (Audio)	
5	○	○	○	Ground (Blue)	
6	○	○	○	Audio input A (Left)	Standard level : 0.5V rms Output impedance : Less than 10k ohm*
7	○	●	●	Blue input	0.7 ± 3dB, 75 ohms, positive
8	○	○	○	Function select (AV control)	High state (9.5 - 12V) : Part mode Low state (0 - 2V) : TV mode Input impedance : More10k ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (Green)	
10	○	○	○	Open	
11	○	●	●	Green	
12	○	○	○	Open	
13	○	○	○	Ground (Red)	
14	○	○	○	Ground (Blanking)	
15	○	—	—	Red input	0.7 ± 3dB, 75 ohms, positive
	—	○	○	(S signal) croma input	0.7 ± 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1 - 3V) Low state (0 - 0.4V) Input impedance : 75 ohms
17	○	○	○	Ground (Video output)	
18	○	○	○	Ground (Video input)	
19	○	○	○	Video output	1V ± 3dB, 75ohms, positive sync : 0.3V (-3 + 10dB)
20	○	—	—	Video input	1V ± 3dB, 75ohms, positive sync : 0.3V (-3 + 10dB)
	—	○	○	Video input Y (S signal)	1V ± 3dB, 75ohms, positive sync : 0.3V (-3 + 10dB)
21	○	○	○	Common ground (plug, sheild)	

○ Connected ● Not Connected (Open) * at 20Hz - 20kHz

Pin No.	Signal	Signal Level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB 75 ohm, positive Sync. 0.3V -3 + 10dB
4	C (S signal) input	0.3V ± 3dB 75ohm, positive Sync.



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CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

ATTENTION

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

WARNING !!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

ATTENTION !!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE.
LE CHÁSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND, IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES VUES EXPLOSÉES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE PUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY.

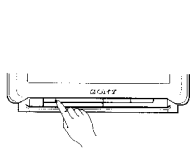
Overview

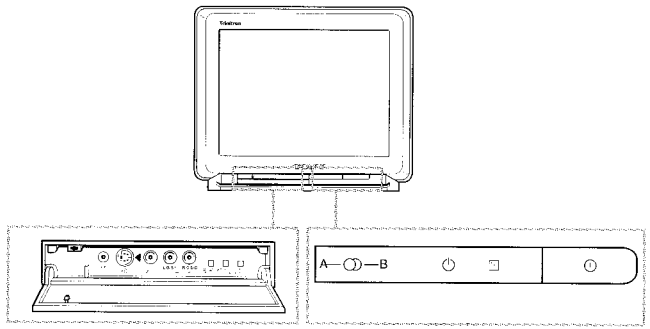
SECTION 1 GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

This section briefly describes the buttons and controls on the TV set and on the Remote Commander. For more information, refer to the pages given next to each description.

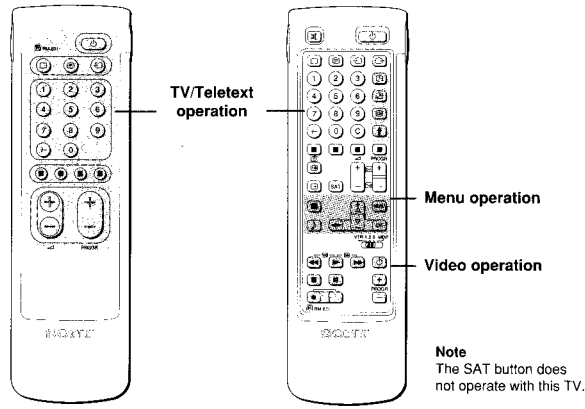
TV set - front





Symbol	Name	Refer to page
⏻	Main power switch	33, 40
⏻	Standby indicator	40
A-○○-B	Stereo A/B mode indicators	42
🎧	Headphones jack	47
→3, →3, →3	Input jacks (S video/video/audio)	47
P → ◿ →	Function selector (Programme/volume/input)	40
–/+	Adjustment buttons for function selector	40

Remote Commander RM-831



Simple side

Full-Function side

Note
The SAT button does not operate with this TV.

TV/Teletext operation

Symbol	Name	Refer to Page
🔇	Muting on/off button	41
⏻	Standby button	40
🖵	TV power on/TV mode selector button	40
📺	Teletext button	41
→3	Input mode selector	41
3→	Output mode selector	48
1,2,3,4,5,6, 7,8,9 and 0	Number buttons	40
–/--	Double-digit entering button	40
C	Direct channel entering button	39
◿ +/–	Volume control button	40
PROGR +/–	Programme selectors	40
📺📺	Teletext page access buttons	44
●	Picture adjustment button	42
♪	Sound adjustment button	42
⊕	On-screen display button	41
📺	Teletext hold button	44
ⓘ	Time display button	41
■■■■	Fastext buttons	44

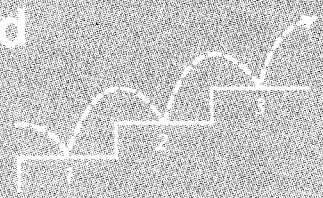
Menu operation

Symbol	Name	Refer to Page
MENU	Menu on / off button	33
△+/▽–	Select buttons	33
OK	OK (confirming) button	33
⬅	Back button	33

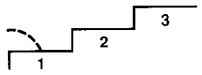
Video operation

Symbol	Name	Refer to Page
VTR1/2/3 MDP	Video equipment selector	49
◀◀ ▶ ▶▶ ■ ❚❚ ● ⏻ PROGR +/–	Video equipment operation buttons	49

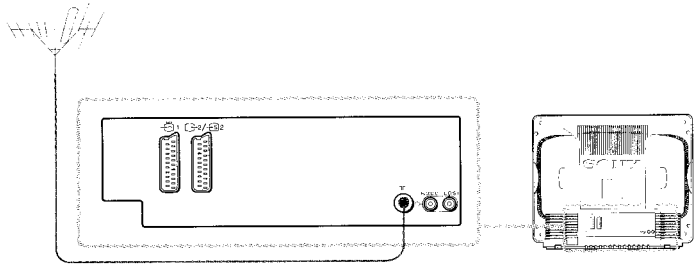
Getting Started



Step 1 – Connection

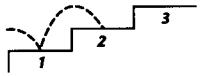


Connect the aerial

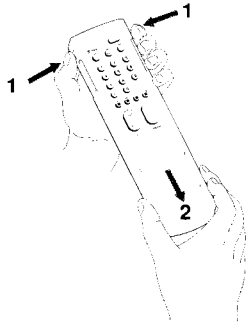


Fit an IEC aerial connector attached to 75-ohm coaxial cable (not supplied) to the ⊼ socket at the rear of the TV. Make sure to use an aerial cable corresponding to the relevant regulations.

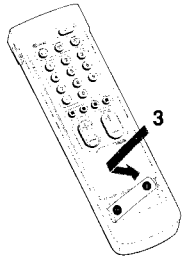
Step 2 – Preparation



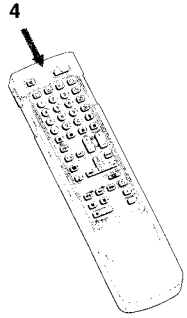
Insert the batteries into the Remote Commander



Remove the cover.

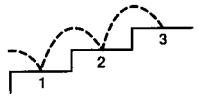


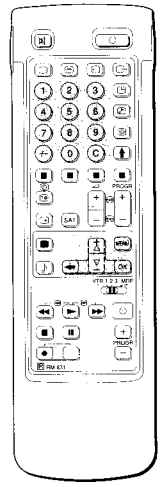
Check the correct polarities.



Refit the outside cover making sure that the Full-Function side is visible to use the menu in Step 3.

Step 3 Tuning in to TV Stations





Once you have set up the TV, you can choose the language of the menu. Then you should preset the channels (up to 100 channels) by choosing either the automatic or manual method.

The automatic method is easier if you want to preset all receivable channels at once. Use the manual method if you only have a few channels and want to preset channels one by one. The manual method is also convenient for allocating programme numbers to various video input sources.

Before you begin

- Check that the Full-Function side of the Remote Commander is visible.
- Locate Menu operation buttons on the Remote Commander. They are shaded in the illustration at the left.

❶ Choose a language

1 Depress ⏻ on the TV.
The TV will switch on. If the standby indicator on the TV is lit, press ▭ or a number button on the Remote Commander.

2 Press the MENU button.
The LANGUAGE menu appears. (See Fig. 1)

MENU

3 Select the language you want with △+ or ▽– and press OK.

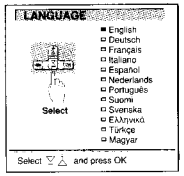
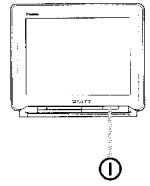


Fig. 1



❷ Display the Menu

Press the MENU button twice.
The main menu appears. (See Fig. 2)

Using △+ or ▽– select the symbol ⚒ and press OK.

Now, choose one of the methods described overleaf:
»**Preset Channels Automatically**«

or

»**Preset Channels Manually**«.

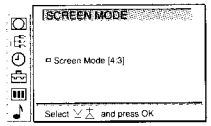


Fig. 2

To go back to main menu:
Keep pressing ⬅.

To go back to the normal TV picture:
Press MENU. Normal TV picture will be restored after one minute if menu functions are not selected.

Note on the Demo function:
If you choose Demo in the Installation menu, you can see a sequential demonstration of the menu functions.
Press MENU to stop the function.

With this method, you can preset all receivable channels at once.

To stop automatic channel presetting:
Press ← on the Remote Commander.

Notes:
• After presetting the channels automatically, you can check which channels are stored on which programme positions. For details, see »Displaying the Programme Table« on page 41.

• You can sort the programme positions to have them appear on screen in the order you like. For details, see »Sorting Programme Positions« on page 36.

Programme names are automatically taken from Teletext if available. If not, please refer to page 38 »Captioning a Station name« for more information.

❸ Preset channels automatically

1 Select the symbol for »Preset« with △+ or ▽– and press OK.
The PRESET menu appears. (See Fig. 3.)

2 Select »Auto Programme« with △+ or ▽– and press OK.
The AUTO PROGRAMME menu appears. (See Fig. 4.)

3 Press OK.
Select if necessary the TV broadcast system (B/G for Western European or D/K for Eastern European countries) with △+ or ▽– and press OK. The first element of the »PROG« number will be highlighted.

4 Select the programme (number button) from which you want to start presetting. Select the first element of the double-digit number with △+ or ▽– or the number buttons (e.g. For »04«, select »0« here) and press OK.
The second element of »PROG« will be highlighted.

5 Select the second element of the double-digit number with △+ or ▽– or the number buttons (e.g. For »04«, select »4« here) (See Fig. 5.) and press OK.

6 Select »C« or »S« with △+ or ▽– and press OK.
The automatic channel presetting starts.
When presetting is finished, the preset menu reappears. All available channels are now stored on successive number buttons. Press MENU to restore normal TV picture.

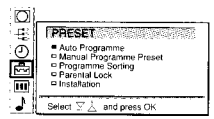


Fig. 3

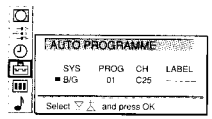


Fig. 4

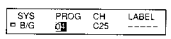


Fig. 5

❸ Preset channels manually

Use this method if there are only a few channels in your area to preset or if you want to preset channels one by one. You may also allocate programme numbers to various video input sources.

If you have made a mistake:
Press ← to go back to the previous position.
To go back to main menu
Keep pressing ←.
To go back to the normal TV picture:
Press MENU.

1 Select the symbol for »Preset« with △+ or ▽– and press OK.
The PRESET menu appears. (See Fig. 6.)

2 Select »Manual Programme Preset« with △+ or ▽– and press OK.
The MANUAL PROGRAMME PRESET menu appears. (See Fig. 7.)

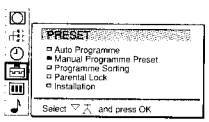
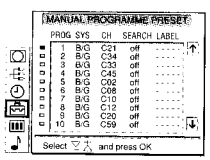


Fig. 6


MANUAL PROGRAMME PRESET
PROG SYS CH SEARCH LABEL
1 B/G C21 off
2 B/G C34 off
3 B/G C33 off
4 B/G C45 off
5 B/G C02 off
6 B/G C08 off
7 B/G C10 off
8 B/G C12 off
9 B/G C20 off
10 B/G C59 off
Select ▽△ and press OK
Fig. 7

To tune in a channel by frequency:
After selecting F in step 6, enter three digits using the number buttons.
Press OK.

3 Using △+ or ▽–, select the programme position (number button) to which you want to preset a channel, and press OK.

4 Select, if necessary the TV broadcast system or a video input source (EXT) with △+ or ▽–.

5 Then press OK. The CH position wil be highlighted. (See Fig. 8.)

6 Using △+ or ▽–, select C (to preset a regular channel), S (cable channel) or F (to tune in by frequency) and press OK.
The first element of the »CH« number will be highlighted.
If you have selected EXT in step 5, select the video input source with △+ or ▽–. (See Fig. 9.)

There are two ways to preset channels. If you know the channel number, go to step »7-Manual«,

or

if you don't know the channel number, go to step »7- Search«.

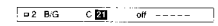


Fig. 8

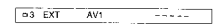


Fig. 9

7 ***Manual***

-a Select the first element of the »CH« number with △+ or ▽– or the number buttons and press OK.
The second element of the »CH« number will be highlighted.

-b Select the second element of the number with △+ or ▽– or the number buttons.
The selected number appears. (See Fig. 10.)

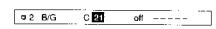


Fig. 10

-c Press OK
The »SEARCH« position is highlighted and the selected channel is now stored. (See Fig. 11.)

Fig. 11

-d Press OK until the cursor appears by the next programme position.

-e Repeat steps 3 to 7 to preset other channels.

If you have made a mistake:
Press ← to go back to the previous position.
To go back to main menu:
Keep pressing ←.
To go back to the normal TV picture:
Press MENU.

7 ***Search***

-a Press OK repeatedly until the colour of the SEARCH position changes.

-b Start searching for the channel with △+ (up) or ▽– (down).
The CH position changes colour. (See Fig. 12.)
The CH number starts counting up or downwards. When a channel is found, it stops. (See Fig. 13.)

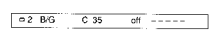


Fig. 12

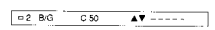


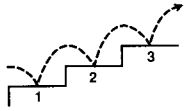
Fig. 13

-c Press OK if you want to store this channel. If not, press △+ or ▽– to continue channel searching.

-d Press OK until the cursor appears by the next programme position.

-e Repeat steps 3 to 7 to preset other channels.

Additional Presetting Functions

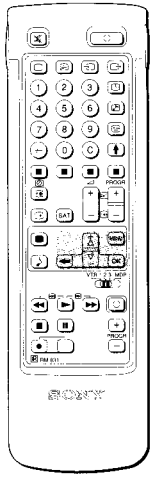


This section shows you additional presetting functions such as sorting or skipping programme positions, captioning a station name, manual fine-tuning, and using the parental lock.

Before you begin

- Check that the Full Function side of the Remote Commander is visible
- Locate the Menu operation buttons.

PROGRAMME SORTING



Sorting Programme Positions

With this function, you can sort the programme positions to a preferable order.

1 Press MENU to display the main menu.

2 Select the symbol 🧰 for »Preset« with Δ+ or ∇– and press OK. The PRESET menu appears.

3 Select »Programme Sorting« with Δ+ or ∇– and press OK. The PROGRAMME SORTING menu appears. (See Fig. 14.)

4 Using Δ+ or ∇– select the programme position which you want to move to another and press OK.
The colour of the selected position changes. (See Fig. 15.)

5 Using Δ+ or ∇– select the programme position to which you want to move the channel of the programme position selected in step 4 and press OK. Now the programme positions have been sorted. (See Fig. 16.)

6 Repeat steps 4 and 5 to sort other programme positions.

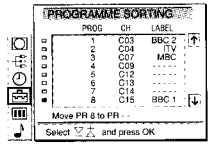


Fig. 14

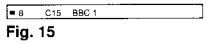


Fig. 15

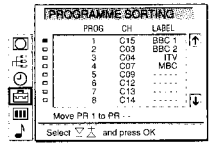


Fig. 16

INSTALLATION

For higher programme positions:
The display scrolls automatically.

If you have made a mistake:
Press ← to go back to the previous position.

To go back to main menu:
Keep pressing ←.

To go back to the normal TV picture:
Press MENU.

How to adjust the Picture Rotation

If due to the earth magnetism the picture »slants«, you can use the function »Picture Rotation« to readjust the picture.

1 Press MENU to display the main menu.

2 Select the symbol 🧰 for »Preset« with Δ+ or ∇– and press OK. The PRESET menu appears.

3 Select »Installation« with Δ+ or ∇– and press OK. The INSTALLATION menu appears.

4 Select »Picture Rotation« with Δ+ or ∇– and press OK. The PICTURE ROTATION menu appears. (See Fig. 17.)

5 Press OK. Adjust the picture rotation with Δ+ or ∇– until you have an upright picture. As you press the cursor buttons, the range changes from – 4 to + 4.

6 Press OK to store the adjustment.

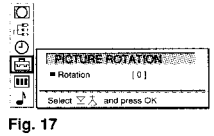


Fig. 17

Using »Further Programme Preset«

Using the menu »Further Programme Preset« you can

a) individually adjust and store the volume level of each channel (Volume offset).

b) in case of a strong sound signal (distorted sound), attenuate the sound signal for each programme position.

c) use the manual fine tuning to obtain a better picture reception, if the picture is distorted. Normally the AFT (automatic fine tuning) is operating.

1 Press MENU to display the main menu.

2 Select the symbol 🧰 for »Preset« with Δ+ or ∇– and press OK. The PRESET menu appears.

3 Select »Installation« with Δ+ or ∇– and press OK. The INSTALLATION menu appears.

4 Select »Further Programme Preset« with Δ+ or ∇– and press OK. The FURTHER PROGRAMME PRESET menu appears (See Fig. 18).

5 Using Δ+ or ∇– select the desired programme position and press OK once to select a) VOL (Volume offset), twice to select b) » IN-AMP« (Input Amplifier) or three times to select c) AFT (Automatic Fine Tuning). The selected item changes colour.

To adjust or change:

a) **Volume offset (VOL)**
Using Δ+ or ∇– you can adjust the volume level for the selected programme position within a range from –7 to +7. Press OK to store the volume level.
Repeat step 5 to set the volume level for other programme positions.

b) **IN-AMP (input amplifier)**
Using Δ+ or ∇– select »Off« for the selected programme position. Press OK to confirm the selection. Repeat step 5 to switch off the input amplifier for other programme positions.

c) **AFT**
Using Δ+ or ∇– you can fine-tune the channel within a range from –15 to +15. Press OK to store the fine-tuned level. Repeat step 5 to fine-tune the other channels.

6 Press MENU to return to the normal TV mode.

To reactivate AFT (Automatic Fine Tuning)
Repeat from the beginning and select »ON« in step 5.

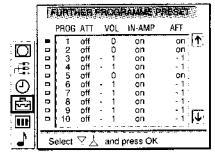

FURTHER PROGRAMME PRESET
PROG ATT VOL IN-AMP AFT
1 off 0 on on
2 off 0 on -1
3 off -1 on -1
4 off -1 on -1
5 off 0 on on
6 off -1 on -1
7 off -1 on -1
8 off -1 on -1
9 off -1 on -1
10 off -1 on -1
Select ▽△ and press OK

Fig. 18

MANUAL PROGRAMME PRESET

Skipping Programme Positions

You can skip unused programme positions when selecting programmes with the PROGR +/– buttons. However, the skipped programmes may still be called up when you use the number buttons.

1 Press MENU to display the main menu.

2 Select the symbol for »Preset« with △+ or ▽– and press OK.
The PRESET menu appears.

3 Select »Manual Programme Preset« with △+ or ▽– and press OK.
The MANUAL PROGRAMME PRESET menu appears. (See Fig.19.)

4 Using △+ or ▽–, select the programme position which you want to skip and press OK.
The »SYS« position changes colour.

5 Press △+ or ▽– until »– – –« appears in the SYSTEM position. (See Fig. 20.)

6 Press OK. (See Fig. 21.)
When you select programmes using the PROGR +/– buttons, the programme position will be skipped.

7 Repeat steps 4 to 6 to skip other programme positions.

PROGR

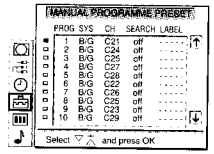


Fig. 19

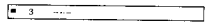


Fig. 20

Fig. 21

MANUAL PROGRAMME PRESET

Captioning a Station Name

Programme names are usually automatically taken from Teletext if available. You can also »name« a channel or an input video source using up to five characters (letters or numbers) to be displayed on the TV screen (e.g. BBC1). Using this function, you can easily identify which channel or video source you are watching.

If you have made a mistake:
Press ← to go back to the previous position.

To go back to main menu:
Keep pressing ←.

To go back to the normal TV picture:
Press MENU.

1 Press MENU to display the main menu.

2 Select the symbol for »Preset« with △+ or ▽– and press OK.
The PRESET menu appears.

3 Select »Manual Programme Preset« with △+ or ▽– and press OK.
The MANUAL PROGRAMME PRESET menu appears. (See Fig. 22.)

4 Using △+ or ▽–, select the programme position you want to caption and press OK repeatedly until the first element of the LABEL position is highlighted.

5 Select a letter or number with △+ or ▽– and press OK.
The next element will be highlighted.
Select other characters in the same way. If you want to leave an element blank, select – and press OK. (See Fig. 23.)

6 After selecting all the characters, press OK repeatedly until the cursor appears by the next programme position (at the left margin).
Now the caption you chose is stored. (See Fig. 24.)

7 Repeat steps 5 and 6 to caption names for other channels.

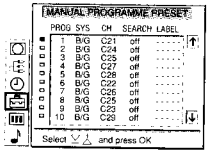


Fig. 22

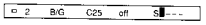


Fig. 23

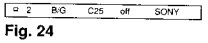


Fig. 24

PARENTAL LOCK

Parental Lock

You can prevent undesirable broadcasts from appearing on the screen. We suggest you use this function to prevent children from watching programmes which you consider unsuitable.

1 Press MENU to display the main menu.

2 Select the symbol for »Preset« with △+ or ▽– and press OK.
The PRESET menu appears.

3 Select »Parental Lock« with △+ or ▽– and press OK.
The PARENTAL LOCK menu appears. (See Fig. 25.)

4 Using △+ or ▽–, select the programme position you want to block and press OK.
The symbol appears in front of the programme number indicating that this programme is now blocked. (See Fig. 26.)

5 Repeat step 4 to block other programme positions.

If you try to select a programme that has been blocked:
The message »LOCKED« appears on the blank TV screen.

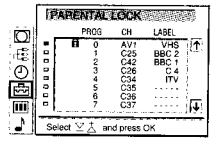


Fig. 25

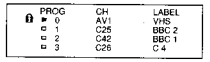


Fig. 26

Cancelling blocking

1 On the PARENTAL LOCK menu, select the programme position you want to unblock with △+ or ▽–.

2 Press OK.
The symbol disappears indicating that the blocking has been cancelled.

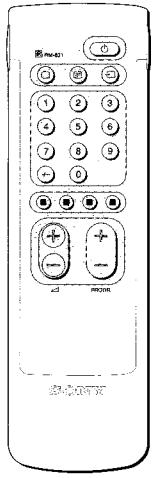
Tuning in a Channel Temporarily

You can tune in a channel temporarily, even when it has not been preset. Use the buttons on the Full-Function side of the Remote Commander.

1 Press C on the Remote Commander. For cable channels, press C twice.
The indication »C« (»S« for cable channels) appears on the screen.

2 Enter the double-digit channel number using the number buttons (e.g. for channel 4, first press 0, then 4).
The channel appears.
However, the channel will not be stored.

Watching the TV



If no picture appears when you depress ⏻ on the TV
and if the standby indicator on the TV is lit, the TV is in standby mode. Press 🖵 or one of the number buttons to switch it on.

This section explains the basic functions you use while watching TV. Most of the operations can be done using the simple side of the Remote Commander.

Switching the TV on and off

Switching on

Depress ⏻ on the TV.

Switching off temporarily

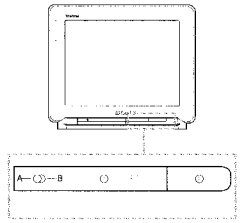
Press ⏻ on the Remote Commander.
The TV enters standby mode and the standby indicator on the front of the TV lights up.

To switch on again

Press 🖵, PROGR +/–, or one of the number buttons on the Remote Commander.

Switching off completely

Depress ⏻ on the TV.



Selecting TV Programmes

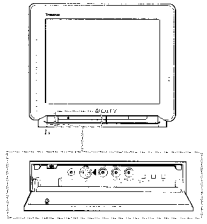
Press PROGR +/– or the number buttons.

To select a double-digit number

Press –/––, then the number.
For example, if you want to choose 23, press –/––, 2 and 3.

Adjusting the Volume

Press ◿+/–.

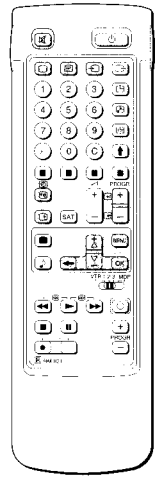


Operating the TV Using the Buttons on the TV

- With the buttons on the TV, you can select programmes, adjust the volume, and select video input sources.
  Press P ➡ ◿ ➡ ⏎ button repeatedly until the programme number, ◿ (for volume), or ⏎ (for video input picture) appears. Then adjust with the –/+ buttons.
- Press –/+ buttons to switch on the TV from the standby mode.
- Press –/+ simultaneously to reset picture and sound controls to *the factory preset level* (RESET function).

For details of the teletext operation, refer to page 45.

For details of the video input picture, refer to page 48.



Watching Teletext or Video Input

Watching teletext

- Press ☰ to view the teletext.
- Press three number buttons to select a page.
- Press one of the coloured buttons for fastext operation.
- Press ⏩ (PAGE +) or ⏪ (PAGE –) for the next or preceeding page.
- To go back to the normal TV picture, press 🖵.

Watching a video input picture

Press ⏎ repeatedly until the desired video input appears. To go back to the normal TV picture, press 🖵.

More Convenient Functions

Use the Full-Function side of the Remote Commander.

Displaying the on screen indications

- Press ⓘ once to display all the indications. They will disappear after some seconds.
- Press ⓘ twice to have the programme number and label stay on screen. Press twice again to make indications disappear.

Muting the sound.

Press 🔇.
To resume normal sound, press 🔇 again.

Displaying the time

Press ⏲. This function is available only when teletext is broadcast.
To make the time display disappear, press ⏲ again.

Displaying the Programme Table

Press OK. A Programme Table will be displayed on the right side of the TV screen (See Fig.27).

Selecting TV programmes

Press PROGR +/– or select the desired programme position using △+ or ▽– and press OK.
To make the Programme Table disappear, press MENU.

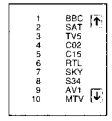
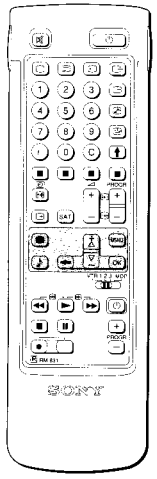


Fig. 27

Adjusting and Setting the TV Using the Menu

PICTURE CONTROL

SOUND CONTROL



If you have made a mistake:
Press ← to go back to the previous position.
To go back to the main menu:
Keep pressing ←.
To go back to the normal TV picture:
Press MENU.

Note on LINE OUT:
The audio level and the dual sound mode output from the ⊖ jack on the rear correspond to the HEADPHONES VOLUME and DUAL SOUND settings.

When watching a video input source with stereo sound:
You can select DUAL SOUND to change the sound.

Adjusting the Picture and Sound

Although the picture and sound are adjusted at the factory, you can adjust them to suit your own taste. You can also select dual sound (bilingual) programmes when available and adjust the sound for listening with the headphones (∩).

1 Press ● (for picture) or ♪ (for sound) on the Remote Commander.

or

Press MENU and select on the screen the symbol ▥ for Picture Control or ♪ Sound Control, then press OK.
The PICTURE CONTROL or SOUND CONTROL menu appears. (See Fig. 28 or Fig. 29)

2 Using △+ or ▽−, select the item you want to adjust and press OK.The selected item changes colour. (See Fig. 30)

3 Adjust the setting with △+ or ▽ − and press OK.
The cursor appears beside the next item (at the left margin). (See Fig. 31)
For the effect of each control, see the table below.

4 Repeat steps 2 and 3 to adjust other items.

Fig. 28

Fig. 29

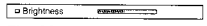


Fig. 30

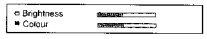


Fig. 31

Effect of each control

PICTURE CONTROL	Effect
Contrast	Less —I— More
Brightness	Darker —I— Brighter
Colour	Less —I— More
Hue (only for NTSC)	Greenish —I— Reddish
Sharpness	Softer —I— Sharper
Reset	Resets picture to the factory preset levels.
Screen Mode	Auto (automatic selection of 16:9 broadcasts decoded in 4:3) ➡ 4:3 Normal ➡ 16:9 Wide screen effect
Digital Mode	I: Normal II: LFR (Line Flicker Reduction) off

SOUND CONTROL	Effect
Treble	Less —I— More
Bass	Less —I— More
Balance	More left —I— More right
Reset	Resets sound to the factory preset levels.
Loudness	off : Normal on : When listening to low volume sound.
Space	off : Normal on : Obtain acoustic sound effect.
Dual Sound	A : left channel B : right channel stereo mono The selected mode of the A-CD-B indicator on the TV lights up.
Headphones:	
∩ Volume	Less —I— More
∩ Dual Sound	A : left channel B : right channel STEREO MONO

TIMER

To switch off the timer:
Select »OFF« in step 3.

To check the remaining time:
Press ⊙.

To go back to the normal TV picture:
Press MENU.

Using the Sleep Timer

You can select a time period after which the TV automatically switches into standby mode.

1 Using △+ or ▽− select the symbol ⏲ for »Timer« and press OK. The TIMER menu appears (see Fig. 32).

2 Press OK.
The time period option changes colour.

3 Select the time period with △+ or ▽−.
The time period (in minutes) changes as follows:
off →10→20→30→40→50→60→70→80→90

4 After selecting the time period, press OK.
The cursor moves back to the left margin and the timer starts counting.
One minute before the TV switches into standby mode, a message is displayed on the screen.

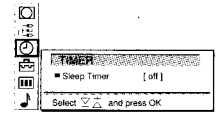


Fig. 32

SCREEN MODE

Operating Screen Mode using the Menu

1 Press MENU to display the main menu.

2 Select »Screen Mode« with △+ or ▽− and press OK. The SCREEN MODE menu appears (See Fig. 33).

3 Press OK.

4 Using △+ or ▽− select the desired format (4:3 normal ratio or 16;9 for wide screen effect) and press OK.

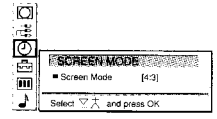
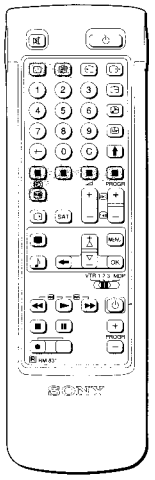


Fig. 33

Teletext



TV stations broadcast an information service called Teletext via the TV channels. Teletext service allows you to receive various information pages such as weather reports or news at any time you want. For advanced teletext operation, use the buttons on the Full-Function side of the Remote Commander.

Direct Access Functions

Switching Teletext on and off

1 Select the TV channel which carries the teletext broadcast you want to watch.

2 Press ▤ to switch on teletext.
A teletext page will be displayed (usually the index page).If there is no teletext broadcast, »No text available« is displayed on the information line at the top of the screen.

To switch teletext off
Press ▢.

Selecting a teletext page

With direct page selection
Use the number buttons to input the three digits of the chosen page number.
If you have made a mistake, type in any three digits. Then re-enter the correct page number.

With page-catching
1 Select a teletext page with a page overview (e.g. index page).

2 Press OK. Using △+ or ▽–, select the desired page. »Page Catching« will be displayed on the information line. Press OK. The requested page will appear in a few seconds.

Press ▤ to resume normal teletext reception.

Accessing the next or preceding page
Press ▤ (PAGE +) or ▤ (PAGE –).
The next or preceding page appears.

Superimposing the teletext display on the TV programme

- Press ▤ once in teletext mode or twice in TV mode.
- Press ▤ again to resume normal teletext reception.

Preventing a teletext page from being updated

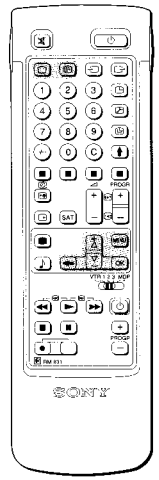
- Press ▤ (HOLD). The HOLD symbol »▤« is displayed on the information line.
- Press ▤ to resume normal teletext reception.

Using Fastext

With Fastext you can access pages with one key stroke.When a Fastext page is broadcast, a colour-coded menu will appear at the bottom of the screen. The colours of this menu correspond to the red, green, yellow and blue buttons on the Remote Commander.
Press the corresponding coloured button on the Remote Commander which corresponds to the colour-coded menu. The page will be displayed after some seconds.

Notes:
• Teletext errors may occur if the broadcasting signals are weak.

Note:
Fastext operation is only possible, if the TV station broadcasts Fastext signals.



Note:
Some of the features may not be available depending on the Teletext service.

Using the Teletext Menu

This TV is provided with a menu-guided teletext system. When teletext is switched on, you can use the menu buttons to operate the teletext menu. Select the teletext menu functions in the following way:

1 Press MENU. The menu will be superimposed on the teletext display. (See Fig. 34)

2 Using △+ or ▽–, select the teletext function you want and press OK. (See Fig. 35)

USER PAGES/PRESET USER PAGES

See page 50 for information about presetting and operating the user pages.

INDEX

The index will give you an overview of the contents of the teletext and the page numbers.

TOP/BOTTOM/FULL

For convenient reading of a teletext page, you can enlarge the teletext display with the ability to scroll up and down the screen. After having selected the function, an information line Top/Bottom/Full will be displayed. (See Fig. 36).
Press △+ for »Top« to enlarge the upper half. For »Bottom« keep pressing ▽–, to enlarge the lower half. Press OK for »Full« to resume the normal size.
Press ▤ to resume normal teletext reception.

TEXT CLEAR

After having selected the function, you can watch a TV programme while waiting for a requested teletext page to be captured (The symbol changes colour) (See Fig. 37).
Press ▤ to view the requested page.

SUBTITLES

Your teletext service will inform you if a TV programme is subtitled. After having selected the function the subtitles will be displayed.

REVEAL

Sometimes pages contain concealed information, such as answers to a quiz. The reveal option lets you disclose the information. After having selected the function, an information line »REVEAL ON/OFF« will be displayed. (See Fig. 38).

Using △+ or ▽–, select ON to reveal the information or OFF to conceal it again.
Press ▤ to resume normal teletext reception.

TIME PAGE

Your teletext service will inform you, if a time coded page is available. You may have a page (e.g. an alarm page) displayed at a certain time.

1 Press OK. Using △+ or ▽– select ON and press OK.

2 To select the desired page, enter the three digits of the page number (e. g. 301) using the number buttons.

3 To select the time, enter four digits for the desired time (e.g. 1800) using the number buttons. Press MENU. The selected time is displayed at the top in the left-handed corner. At the requested time, the page will be displayed.
Press ▤ to resume normal teletext mode.

To cancel the request:
Select »OFF« for the TIME PAGE setting.

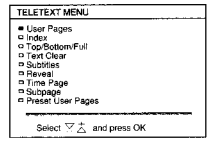


Fig. 34

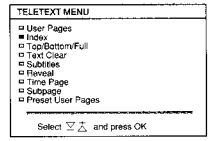


Fig. 35

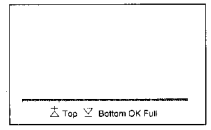


Fig. 36

Fig. 37

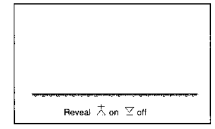


Fig. 38

To cancel the request:
Select »Subpage« and press OK.

SUBPAGE

You may want to select a particular teletext page from several subpages which are rotated automatically. After having selected the function, an information line will be displayed.

To select the desired subpage, enter four digits using PROGR+/– or the number buttons. (e.g. enter 0002 for the second page of a sequence).

User Page Bank System

You can store up to 30 pages in the »Teletext page bank system«. In this way you have quick access to the pages you watch frequently.

Storing pages

There are 5 »banks« (A to E) for 5 teletext stations. In each bank you can store 6 preferred pages (P1 to P6).

If two broadcasting stations use the same Teletext:
You can preset one bank to 2 different programme positions.

1 Press ⓣ (if Teletext is not on already) and MENU to show the TELETEXT MENU display.

2 Select PRESET USER PAGES with △+ or ▽– and press OK.

3 Select the desired bank with △+ or ▽– and press OK. The cursor will go to the first position (P1) of the preferred pages.

4 Input the three digits of your first preferred page with the number buttons and press OK.
The cursor will go to the second position.

5 Repeat step 4 for the other 5 page numbers you want to preset. If you do not want to preset all 6 page numbers available, press OK without inserting any number. After having finished the presetting press OK repeatedly until the cursor appears besides the next bank at the left margin.

6 Select Allocate Bank with △+ or ▽– and press OK.

7 Select the programme position for which you have preset pages with △+ or ▽– and press OK. (See Fig. 39)

8 Select the desired bank with △+ or ▽– (Banks A to E are available) and press OK.

9 Repeat steps 3 to 8 for the other 4 banks available.

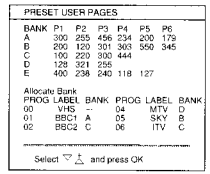

PRESET USER PAGES
BANK P1 P2 P3 P4 P5 P6
A 300 255 456 234 200 179
B 200 120 301 363 550 345
C 100 220 300 444
D 128 321 255
E 400 236 240 118 127
Allocate Bank
PROG LABEL BANK PROG LABEL BANK
00 VHS -- 04 MTV D
01 BBC1 A 05 SKY B
02 BBC2 C 06 ITV C
Select ▽△ and press OK

Fig. 39

Displaying User Pages

1 Select MENU.

2 Select User Pages with △+ or ▽– and press OK.
A table of the stored preferred pages will be displayed. (See Fig. 40)

3 Select the desired page with △+ or ▽– and press OK. The page will be displayed after some seconds.

or

You can use the coloured buttons on the Remote Commander to have quick access to the first four User pages. Page 1 corresponds to the red button, P 2 to the green one, P 3 to the yellow one and P 4 to the blue button.
To select the desired page press the respective coloured button while you are in TV mode. Now the Page number of this teletext page will appear in white at the top in the left-handed corner of the TV screen. When the page number changes colour, the page is available. Press the coloured button again to display the page.

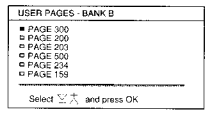


Fig. 40

Connecting and Operating Optional Equipment

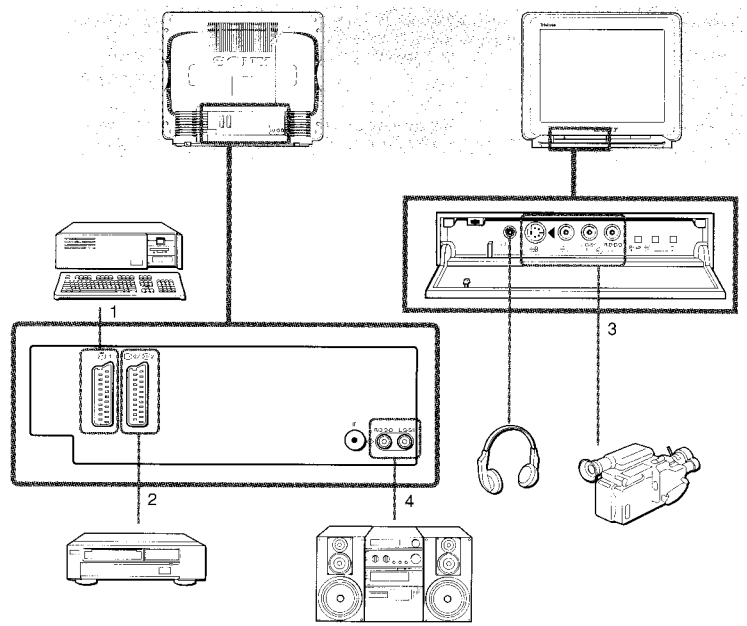
Connecting Optional Equipment

You can connect optional audio-video equipment to this TV such as VCRs, video disc players, and stereo systems.

To connect a VCR using the ⊤ terminal
Connect the aerial output of the VCR to the aerial terminal ⊤ of the TV.

We recommend that you tune in the signal to programme number »0«. For details see »Preset Channels Manually« on page 34.

If the picture or the sound is distorted
Move the VCR away from the TV.

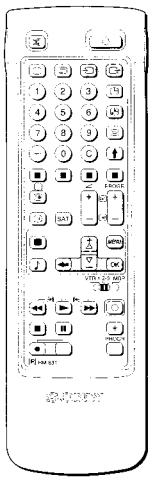


S video input (Y/C input)
Video signals may be separated into Y (luminance or brightness) and C (chrominance) signals. Separating the Y and C signals prevents them from interfering with one another, and therefore improves picture quality (especially luminance).

When connecting a monaural VCR:
Connect only the white ⊣ jack to both the TV and VCR.

Acceptable input signal	Available output signal
1 Normal audio/video and RGB signal	Video/audio from TV tuner
2 Normal audio/video and S video signal	Video/audio from selected source
3 Normal audio/video and S video signal	No outputs
4 No inputs	Audio signal (variable)

Selecting input with PROGR +/– or number buttons:
You can preset video input sources to the programme positions so that you can select them with PROGR +/– or number buttons. For details, see »Preset channels manually« on page 34.



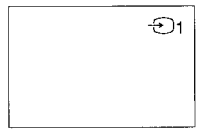
Selecting input and output

This section explains how to view the video input picture (of the video source connected to your TV), and how to select the output signal using direct access buttons or the menu system.

Selecting input

Press ⊕ repeatedly to select the input source.
The symbol of the selected input source will appear.

To go back to the normal TV picture
Press ▢.



Input modes

Symbol	Input signal
⊕ 1	Audio/video input through the 1 connector
	RGB input through the 1 connector
⊕ 2	Audio/video input through the 2/S2 connector
S 2	S video input through the 2/S2 connector
⊕ 3	Audio/video input through 3 and 3 connectors at the front
S 3	S video input through the S3 connectors (4-pin connector) at the front

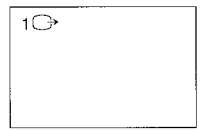
You can also select the input mode using the P → ◿ → ⊕ and –/+ buttons on the TV.

In this case, select first ⊕ and then press the –/+ buttons to select the input.

Selecting the output

The 2/S2 connector outputs the source input from the other connectors.

You can also select the input mode using the and buttons on the TV. In this case, select first and then press the buttons to select the input.



Symbol	2/S2 connector outputs
1	The audio/video signal from the 1 connector
2	The audio/video signal from the 2/S2 connector
2 S	The audio/video signal from the 2/S2 connector
3	The audio/video signal from the 3, 3 connectors
3 S	The audio/video signal from the S3, 3 connectors
TV	The audio/video signal from the aerial terminal

Using AV Preset

Using this function you can preset the desired input source (e.g. 1, RGB signal) to the respective AV input (AV 1). In this way a connected VTR will automatically switch to the RGB signal.

1 Select the symbol for »Preset« with Δ+ or ∇– and press OK.

2 Select first »Installation«, then »AV Preset« with Δ+ or ∇– and press OK.
The AV PRESET menu appears (See Fig. 41).

3 Select the desired AV input with Δ+ or ∇– and press OK.

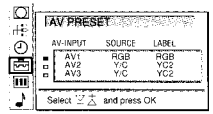
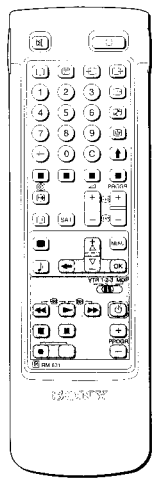


Fig. 41



When recording
When you use the ● (record) button, make sure to press this button and the one to the right of it simultaneously.

4 Select the desired source with Δ+ or ∇– and press OK.
For the respective AV inputs you have the following possibilities:

AV 1	RGB or AV	AV 3	YC3 or AV
AV 2	YC2 or AV		

5 If you want to name the AV input select »Label« using Δ+ or ∇– and press OK. Select a letter or a number with Δ+ or ∇– and press OK. The next element will be highlighted. Select other characters in the same way. If you want to leave an element blank, select – and press OK.
After having selected all the characters, press OK repeatedly until the cursor appears by the next AV input at the left margin.

6 Repeat steps 3 to 5 for the other AV inputs.

Checking and selecting the input and output sources using the menu

You can display the menu to see which input sources are selected for the TV screen and PIP screen, and which output source is selected. You can also select them on the menu display.

1 Select the symbol for »Video Connection« with Δ+ or ∇– and press OK. The VIDEO CONNECTION menu appears. (See Fig. 42)

You can see which source is selected for the TV and PIP input, and for the output. If you want to select the input and output on this menu, go on to the next step.

2 Select TV Screen (input source for the TV screen), PIP(input source for the PIP screen), or output (output source) with Δ+ or ∇– and press OK. One of the source items changes colour.

3 Select the desired source with Δ+ or ∇–.
For details about each source, see the table on page 40.

4 Press OK.
The selected source is confirmed, and the cursor appears.

5 Repeat steps 2 to 4 to select the source for other inputs or outputs.

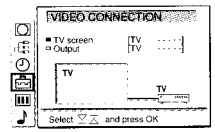


Fig. 42

Remote Control of Other Sony Equipment

You can use the TV Remote Commander to control other Sony remote- controlled video equipment. The buttons for video operation have been factory-set to control most of Sony video equipment, such as: Beta, 8mm or VHS VCRs or video disc players.

Tuning the Remote Commander to the equipment

1 Set the VTR 1/2/3 MDP selector according to the equipment you want to control:
VTR 1: Beta VCR
VTR 2: 8mm VCR
VTR 3: VHS VCR
MDP: Video disc player

2 Use the buttons indicated in the illustration to operate the additional equipment.
If your video equipment is furnished with a COMMAND MODE selector: set this selector to the same position as the VTR 1/2/3 MDP selector on the TV Remote Commander.
If the equipment does not have a certain function, the corresponding button on the Remote Commander will not operate.

For Your Information

Troubleshooting

Here are some simple solutions to problems which may affect the picture and sound.

Problem	Solution
No picture (screen is dark), no sound	• Plug the TV in. • Press ⏻ on the TV. (If ⏻ indicator is on, press ▭ or a programme number on the Remote Commander.) • Check the aerial connection. • Check if the selected video source is on. • Turn the TV off for 3 or 4 seconds and then turn it on again using ⏻.
Poor or no picture (screen is dark), but good sound	• Press ● to enter the PICTURE CONTROL menu and adjust »Brightness«, »Contrast« and »Colour«.
Poor picture quality when watching an RGB video source	• Press ⊡ repeatedly to select 📺.
Good picture but poor or no sound	• Press ◁ +. • If 🔇 is displayed on the screen, press 🔇. • Check the connections of the loudspeakers.
No colour for colour programmes	• Press ● to enter the PICTURE CONTROL menu, select RESET, then press OK.
Remote Commander does not function.	• Replace batteries.

If you continue to have problems, have your TV serviced by qualified personnel. Never open the casing yourself.